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6.14 HAZARDOUS MATERIALS

This section describes the hazardous materials and waste management program that would be implemented by IID and its contractors during construction and operation of the Project. The discussion includes information on the relevant LORS that would be applicable given the nature of the substances that will be used and the wastes that may be generated at the facility. As part of the Project, there will be no new hazardous material storage areas. A list of the known chemicals associated with the new Project equipment is provided as well as a system for mitigating the risk associated with the use and handling of such materials. Only chemicals or hazardous materials and waste associated with the Unit 3 Repower Project are addressed in the SPPE. This section also addresses various equipment or components, which will be abandoned or taken out of service as part of this Project. Finally, an analysis of the potential for environmental and health impacts associated with these hazardous materials and wastes is presented.

6.14.1 Affected Environment

This SPPE Application is for the construction and operation of the ECGS Unit 3 Repower Project. The Project will be owned and operated by IID ("the Applicant") and will utilize the existing staffing at the ECGS. IID is an irrigation district established under Division 11 of the California water code, Sections 20500 et seq., that provides electrical power, non-potable water, and farm drainage services to the lower southeastern portion of the California desert, primarily in Imperial County. ECGS Unit 3 will continue to serve the growing electrical load demands of the region.

The Project consists of replacing the existing CE boiler with a GE Frame 7EA dry low NO_x CTG and HRSG to supply steam to the existing Westinghouse STG. The generator output from the Unit 3 Repower Project will be stepped-up to transmission voltage and interconnected to the existing IID El Centro Switching Station also located within the ECGS Site.

Most of the existing ECGS systems will continue to be used with only minor modifications. Systems that will continue to be used include the STG, cooling system, water treatment system, water supply system, control room, fire system, ammonia system, site access during operations, and electrical El Centro Switching Station.

As part of the Project, some existing equipment will be relocated, replaced, or removed. The Unit 3 CTG and HRSG will be located in a substantially unused area of the ECGS Site west of the existing steam turbine building to minimize demolition and relocation of existing facilities.

Relocation of existing equipment and facilities includes:

- Relocation of two electrical duct banks currently crossing the Project Site
- Reconfiguration of the on-site natural gas fuel system by:
    1. Isolating the feed from the SCGC low pressure meter station
    2. Extending the high pressure line that serves Unit 2 so that it may also serve Unit 3

3. Relocating and upgrading the IID low-pressure natural gas regulating station so that it is fed from the on-site high pressure natural gas line and serves both the Unit 3 HRSG duct burners and the Unit 4 boiler.

- Relocation of the Unit 2 fuel oil transfer pumps to where the existing Unit 3 fuel oil transfer pumps are located. This will allow the relocated Unit 2 pumps to draw suction from the Unit 2 fuel oil tank (converted from the existing Unit 3 fuel oil tank) and supply Unit 2. The relocated Unit 2 pumps will still be powered from Unit 2.
- Relocation of two 161-kV transmission line poles to allow adequate separation between their 161-kV circuits and the new 92-kV circuit being run between the new Unit 3 CTG GSU and the El Centro Switching Station.

Replacement of existing equipment and facilities includes:

- The existing main steam, feedwater, and condensate lines will be rerouted to interconnect with the new HRSG systems.
- The Unit 3 condenser will be replaced. The existing condenser is near the end of its useful life.
- The existing Unit 3 control system will be replaced with a modern DCS.
- The existing pneumatic instrumentation (transmitters) will be replaced with "smart" electronic transmitters.
- The existing STG governor controls will be replaced with a new digital governor controller.
- Portions of the original in-plant electrical distribution system will be replaced.
- Replace the existing Unit 3 cooling tower drift eliminators with more efficient drift eliminators to meet ICAPCD requirements.

The removal of existing equipment and facilities will include:

- Removing two existing Unit 2 fuel oil tanks. The existing Unit 3 fuel oil tank will be retained and renamed for use by Unit 2.
- Removing the existing Unit 3 fuel oil transfer pumps to make room for the relocated Unit 2 fuel oil transfer pumps.
- Removing the existing Unit 1 circulating water lines that run between the condenser and cooling tower (Unit 1 was retired in 1995).

The existing Unit 3 boiler will be abandoned in place in accordance with applicable LORS.

The Project consists of two major project areas:

- Project Site – new Unit 3 CTG/HRSG, minor modifications to the existing Unit 3 cooling tower, replacement of the Unit 3 condenser, minor modifications to Unit 3 STG, the 92 kV electrical interconnection and modifications to the existing gas interconnection facilities.
- Temporary Construction Area – construction parking, construction trailers, and construction laydown area.

The total Project disturbance will be 12.5 acres, all of which is within the ECGS Site. Sensitive land uses within 1 mile of the Project Site include parks, schools, residences, and preschools. A complete description of area land uses is provided in Section 6.2, Land Use.

6.14.2 Hazardous Materials Management

Hazardous materials that will be used in new Project equipment, during construction, and operation of the new equipment installed as part of the Project are shown in Table 6.14-1, Hazardous Materials Use and Storage. As an operating power plant, ECGS has existing hazardous material inventories and storage areas that will be utilized as part of the Unit 3 Repower Project. The Project will take advantage of the existing hazardous material inventory currently stored and will not require the storage of additional bulk hazardous materials.

TABLE 6.14-1
HAZARDOUS MATERIALS USE AND STORAGE

Chemical	Use	Storage	Location	Delivery	Notes
Anhydrous Ammonia (EXISTING)	~25 lbs/hr (Unit 3 only)	10,200 gallons (12,000 gross tank capacity)	Existing Outdoor Tank	6 additional deliveries per year	~ 7,000 gallon (~36,000 lbs) delivery quantity (Anticipate monthly deliveries after Project completion based upon historic capacity factor of Units 2 and 4.)
Transformer Mineral Insulating Oil	Transformer oil	~8,175 gallons	Equipment	One-time	<7,000 gallons per GSU transformer (1-total) <500 gallons per auxiliary transformer (2-total) <50 gallons per metering unit (3-total) <25 gallons per voltage transformer (1-total)
SF6 Gas	N/A	180 pounds	Equipment	N/A	<60 lbs per circuit breaker (3-total)
CTG Mineral Lubricating Oil	Lubricating oil	~2,500 gallons	Equipment	100 gallons/year	Common system for both combustion turbine and generator
Corrosion Inhibitor Chemicals for Closed Cooling Water Loop	N/A	~50 gallons	Equipment Skid Area	As needed	Small periodic use based upon sample tests

Notes:
~ = approximately
< = less than
CTG = combustion turbine generator
lbs/hr = pounds per hour
N/A = not applicable

Of the existing hazardous materials, only anhydrous ammonia is present in amounts greater than the federal and state-regulated reportable quantities. Anhydrous ammonia is stored on the ECGS

Site in an existing 12,000-gallon storage tank. The anhydrous ammonia tank is equipped with ambient ammonia gas detection and a deluge system. All piping containing ammonia is located within a containment area around the ammonia storage tank. The ammonia system is located to minimize pipe length, vehicle hazards, and personnel exposure in the event of a leak.

As a result of the Project, six additional anhydrous ammonia deliveries will occur annually. The average capacity of a delivery truck is 36,000 lbs or approximately 7,000 gallons. The delivery truck will transfer the ammonia via a small pump in the back of the truck and will minimize hose length by parking adjacent to the ammonia storage tank. Accidental releases from ammonia trucks are stopped with excess flow valves, emergency shut-off switches, and back-pressure control valves. The delivery truck's internal isolation valve is automatically closed if the pressure in the fill hose drops to zero. See Section 6.8, Public Health and Safety, for a discussion of the anhydrous ammonia hazard assessment for the new piping associated with the Project.

Existing emergency shower and eyewash stations are located near the anhydrous ammonia storage and use areas. The ammonia tank is protected by an existing automatic fogging system consisting of a local alarm system, ambient ammonia monitors, piping, and fog nozzles.

Service water hose connections will be provided near new Unit 3 Repower Project chemical storage areas to facilitate flushing of leaks and spills of non-water reactive materials to the chemical storage area drains. Appropriate safety gear is provided to plant personnel for use during the handling, use, and cleanup of hazardous materials. Plant personnel are properly trained in the handling, use, and cleanup of hazardous materials used at the ECGS Site and in procedures to be followed in the event of a leak or spill. Adequate supplies of appropriate cleanup materials are stored on-site.

The new Unit 3 CTG oil-filled GSU transformer will be isolated from adjacent equipment and structures using physical separation and/or fire walls. The new Unit 3 auxiliary transformers are to be supplied with approved less-hazardous dielectric fluids. Additionally, the new Unit 3 transformer will reside within a concrete containment area that serves to:

- Contain any oil spills
- Retain direct contact storm water to prevent potential contact with transformer oil
- Contain fire water contaminated with transformer oil

Appropriate safety programs and plans will be modified for any new hazardous materials storage locations, emergency response procedures, employee training requirements, hazard recognition, fire safety, first-aid/emergency medical procedures, hazardous materials release containment/control procedures, hazard communications training, personal protective equipment (PPE) training, and release reporting requirements. Such programs and plans may include:

- RMP for anhydrous ammonia in accordance with the CalARP regulations
- HMBP in compliance with the California Hazardous Materials Release Response Plans and Inventory Act
- Workers safety program
- Fire response program
- Facility safety program

- The facility's standard operating procedures

6.14.3 Waste Generation

6.14.3.1 Solid Non-Hazardous Waste

The construction, operation, and maintenance of the Project will generate non-hazardous solid wastes typical of power generation facilities. Wastes generated during construction generally include scrap wood, excess concrete, empty containers, scrap metal, and insulation. Typical wastes generated during operation and maintenance includes scrap metal and plastic, insulation material, paper, glass, empty containers, and other miscellaneous solid wastes. These materials will be collected for recycling or transfer to landfills in accordance with applicable regulatory requirements. A list of non-hazardous wastes, waste quantities, and disposal methods is provided in Table 6.14-2, Anticipated Non-Hazardous Waste Management Methods.

TABLE 6.14-2
ANTICIPATED NON-HAZARDOUS WASTE MANAGEMENT METHODS

Waste Stream and Classification	Origin and Composition	Estimated Amount	Estimated Frequency of Generation	On-Site Management	Waste Management Method
Construction Phase					
Construction waste	Scrap wood, steel, glass, plastic, paper	<100 cubic yard per month (average)	Intermittent	Stored in appropriate receptacles	Dispose to landfill
Stormwater from construction area	Surface runoff (water, inert material, dirt and concrete particles)	Variable	Intermittent	Allow to evaporate and percolate	Water will evaporate and percolate into on-site soils as currently takes place
Pipeline pressure testing	Drains from pipe high pressure cleaning and hydrostatic testing	<20,000 gallons	One time at end of construction	None	Test and dispose in Baker tanks for off-site disposal, if necessary
Sanitary waste	Portable chemical toilets sanitary waste	350 gallons/day	Intermittent	None	Every week, or as needed, pump to tanker truck and ship to sanitary water treatment plant

TABLE 6.14-2
ANTICIPATED NON-HAZARDOUS WASTE MANAGEMENT METHODS

Waste Stream and Classification	Origin and Composition	Estimated Amount	Estimated Frequency of Generation	On-Site Management	Waste Management Method
Operations Phase					
Closed chilled water system	Propylene glycol	55 gallons/year	Annual	Pump from closed loop cooling system to 55-gallon drum	Recycled off-site
Oily rags	CTG and other users of hydraulic actuators and lubricants	<1 55-gallon drum per month	Intermittent	Store <90 days	Launder at authorized facility
Used air filters	CTG inlet air house	500 cartridge filters	Every other year	Directly transferred to disposal truck	Transported to off-site landfill

Notes:
< = less than
CTG = combustion turbine generator

IID's waste management procedures currently address the proper handling, recycling and disposal of wastes. The attached list in Table 6.14-3, Waste Disposal Handlers and Facilities, provides the waste disposal handlers and facilities currently utilized by IID, and those that would continue to be used for the Project.

TABLE 6.14-3
WASTE DISPOSAL HANDLERS AND FACILITIES

WASTE DISPOSAL FACILITY	LOCATION	TYPE OF LANDFILL or WASTE	REMAINING LIFETIME	PERMITTED CAPACITY	REMAINING CAPACITY
Allied Imperial Landfill 760.353.1100 Randy Bringle	104 East Robinson Road Imperial, CA 92251	Class III Solid Waste	8-10 years remain on existing 42 acres (167-acre proposed expansion would add 50 years)	3.588 million cubic yards	2.417 million cubic yards
La Paz County Landfill 928.669.8886 Pauline Weber Brian Conway	26999 Highway 95 Mile Marker 128 Parker, AZ 85344	Class II Treated wood	Approximately 50 years	26.5 million cubic yards	24.8 million cubic yards (as of 12/31/2005)

TABLE 6.14-3
WASTE DISPOSAL HANDLERS AND FACILITIES

WASTE DISPOSAL FACILITY	LOCATION	TYPE OF LANDFILL or WASTE	REMAINING LIFETIME	PERMITTED CAPACITY	REMAINING CAPACITY
Crosby & Overton, Inc. 562.432.5445 Ron Daerr	1630 West 17th Street Long Beach, CA 90813	Class I waste treatment facility (Part B permitted) RCRA hazardous waste	N/A	N/A	N/A
Filter Recycling Services, Inc. 909.421.2012	180 West Monte Avenue Rialto, CA 92316	Non-hazardous and non-RCRA (Recycling facility)	N/A	N/A	N/A

6.14.3.2 Hazardous Waste

Abandonment or Removal of Existing Equipment and Facilities

As described above, the Project includes the removal and/or abandonment in place of existing equipment, which may contain hazardous waste. This includes the abandonment of the existing ECGS Unit 3 boiler and the removal of two existing fuel oil tanks and fuel oil transfer pumps. Each fuel oil tank has a capacity of 22,000 gallons. One fuel oil tank is currently used for the existing Unit 2. The second fuel oil tank has been certified clean and abandoned in place. Any fuel oil remaining in the active fuel oil tank will be transferred to other fuel oil tanks on the ECGS Site and the tank and associated piping will be cleaned and removed from service in accordance with all LORS.

The existing Unit 3 boiler will be abandoned in place in accordance with applicable LORS. The Unit 3 boiler is known to contain asbestos and lead based paint, however, under IID's current operating and maintenance procedures these hazardous materials do not pose a significant impact to the environment. These materials will be maintained in place. However, if any disturbance is necessary for operation and maintenance of any of the ECGS units, these materials will be removed in accordance with all LORS..

A Phase I Environmental Site Assessment (ESA) of the ECGS Site (URS 2006) was performed in accordance with the American Society for Testing and Materials (ASTM) Standard Practice for Environmental Site Assessment: Phase I Site Assessment Process E-1527-00 as required by the CEC for an AFC. The objective of the Phase I ESA was to assess the Project Site for the presence of Recognized Environmental Conditions (RECs). A copy of the Phase I ESA is provided in Appendix K, Phase I Site Assessment.

The Phase I ESA revealed evidence of RECs in connection with the Project Site. The RECs were associated with small releases of fuel oil involving the two 22,000-gallon fuel ASTs (referred to as Unit #2 day tanks). Based on the scope of services performed for the Phase I

ESA, further investigation was recommended prior to the construction of the new Unit 3 at the Project Site. These Phase II investigations are currently underway.

Project Construction and Operation

Small quantities of hazardous wastes will be generated as a result of Project construction, operation, and maintenance. The majority of hazardous wastes generated during construction will be liquid wastes such as waste oil and other lubricants from construction equipment and machinery operations, solvents used for cleaning and materials preparation, waste paints, concrete from existing foundations, and other material coatings.

Table 6.14-4, Anticipated Hazardous Waste Management Methods, provides a list of the expected hazardous wastes that may be generated at the Project and the disposal methods that will be utilized.

TABLE 6.14-4
ANTICIPATED HAZARDOUS WASTE MANAGEMENT METHODS

Waste Stream and Classification	Origin and Composition	Quantity	Disposal Method
Construction Phase			
Construction waste	Empty hazardous material containers	<10 cubic yards per month	Dispose to hazardous waste disposal facility
Construction waste	Solvents, used oils, paint, oily rags, adhesives, acid and alkaline solutions used to clean piping	<100 gallons per month	Collect in on-site receptacles and dispose to hazardous waste disposal facility or recycle
Drift eliminator panels (replaced)	Existing Unit 3 cooling tower	<80 cubic yards	Dispose to hazardous waste disposal facility
Existing pipe insulation (replaced)	Piping terminal points between new and existing insulated piping system, asbestos	<20 cubic yards	Dispose to hazardous waste disposal facility
Operation Phase			
Cleaning chemicals and detergents	Cleaning solution waste from combustion turbine water wash	100 gallons per month	Stored in on-site drains tank. Wastes with elevated metals contents will be tested and, if hazardous, disposed of at a RCRA Part B permitted facility in accordance with applicable LORS
Spent SCR and CO oxidation catalyst	SCR, heavy metals	50,000 lbs every 4 years	Recycled to supplier or dispose in Class I landfill
Lubricating oils	Waste oil	Not normally generated	Pumped from equipment to 55-gallon drum, stored in waste oil storage enclosure until sent off-site to an authorized waste recycle facility
Fuel gas system	Liquid drains	50 gallons per year	Liquids from filters flow to drain tanks and the contents pumped to 55-gallon drums and recycled to an authorized waste recycle facility

TABLE 6.14-4
ANTICIPATED HAZARDOUS WASTE MANAGEMENT METHODS

Waste Stream and Classification	Origin and Composition	Quantity	Disposal Method
Used oil filters	Combustion turbine	35 filters per year	Stored in waste oil storage enclosure until sent off-site to an authorized waste recycle facility
Oil water separator	Oily sludge	Not normally generated	Stored in integral equipment holding tank until sent off-site to an authorized waste recycle facility

Notes:
< = less than
CO = carbon monoxide
CTG = combustion turbine generator
lbs = pounds
SCR = selective catalytic reduction

The methods used to properly collect and dispose or recycle hazardous wastes generated by the Project depend on the nature of the waste. Hazardous wastes that will be generated by the Project include spent SCR and CO oxidation catalyst, used oil filters, used oil, drift eliminators, asbestos, fuel gas system, and chemical cleaning wastes. Used oil filters will be recycled or disposed of at an off-site disposal facility. Used oil will be recovered and recycled by a waste oil recycling contractor. Existing pipe insulation containing asbestos will be removed and disposed of at a RCRA Part B permitted facility in accordance with applicable LORS. Waste disposal facilities are listed in Table 6.14-3, Waste Disposal Handlers and Facilities, above.

Combustion exhaust catalysts will be used as part of the air quality control systems associated with the Project. These catalyst materials, which contain vanadium and other toxic materials, are expected to last approximately four years. The manufacturer will recycle spent catalysts, if possible. If necessary, these materials will be disposed in an appropriate manner at an approved Class I landfill.

Drift eliminators will be retrofitted to the cooling tower to minimize PM_{10} emissions. Drift eliminators capture liquid water containing PM_{10} present in the exhaust. Consequently, these drift eliminators may contain a high concentration of PM_{10} (along with other materials present in the water) and will be considered a hazardous waste. The drift eliminators will be removed and disposed of at a RCRA Part B permitted facility in accordance with applicable LORS.

Chemical cleaning wastes consist of acid and alkaline cleaning solutions used for pre-operational chemical cleaning of piping. These wastes, which may have elevated concentrations of metals, will be tested. If hazardous, these and all other hazardous solid and liquid wastes will be disposed of at a RCRA Part B permitted facility in accordance with applicable LORS.

Workers will be trained to handle waste generated at the site in accordance with applicable worker safety and health practices and procedures.

6.14.3.3 General Plant Drainage

General plant drainage consists of wastewater collected by sample drains, equipment drains, equipment leakage, and area washdowns. General plant drainage that potentially contains oil or

grease will be routed through an oil water separator. Cooling tower blowdown and process wastewater will be disposed of in the deep well injection system.

6.14.4 Environmental Consequences

6.14.4.1 CEQA Environmental Checklist

Table 6.14-5, CEQA Environmental Checklist – Hazardous Materials and Wastes, is a completed CEQA environmental checklist for the proposed practices for managing hazardous materials and wastes at the Project.

TABLE 6.14-5
CEQA ENVIRONMENTAL CHECKLIST –
HAZARDOUS MATERIALS AND WASTES

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
HAZARDOUS MATERIALS AND WASTE - Would the Project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?			X	
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?			X	
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school?				X
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?				X
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the Project result in a safety hazard for people residing or working in the Project Site?				X
f) For a project within the vicinity of a private airstrip, would the Project result in a safety hazard for people residing or working in the Project Site?				X
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?				X

TABLE 6.14-5
CEQA ENVIRONMENTAL CHECKLIST –
HAZARDOUS MATERIALS AND WASTES

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?				X

6.14.4.2 Discussion of Impacts

The Project will have a less-than-significant impact on the public and the environment due to the routine transport and use of hazardous materials to and from the ECGS Site, because these materials are consistently transported without incident to power generation and industrial facilities throughout the state of California. IID will use existing contractors to transport hazardous materials and will continue to follow all applicable federal Department of Transportation laws and other applicable LORS to minimize the potential for a transportation-related release.

6.14.4.3 Mitigation Measures

As indicated in Table 6.14-5, CEQA Environmental Checklist – Hazardous Materials and Wastes, the use of appropriate mitigation measures will ensure that routine transport, handling, usage, and disposal of wastes associated with the Project will be managed in a way that prevents significant impacts to the public. Additional mitigation measures will reduce the risks associated with an accidental release of hazardous substances at the Project Site. Mitigation measures addressing the delivery of additional anhydrous ammonia are addressed in Section 6.8, Public Health and Safety. These measures focus primarily on anhydrous ammonia, which is the only hazardous material that will be present in substantial quantity at the Project Site. Measures that will be implemented to reduce or eliminate will include:

WASTE-1: The Applicant will ensure that the Unit 2 fuel oil tank in use and its associated piping is certified cleaned and that the Unit 2 fuel oil tanks are disposed of at an appropriate disposal facility, or recycled, before the start of Project Site grading.

Verification: At least 15 days before the start of Project Site grading (or as agreed upon with the CEC CPM), the Applicant will provide to the CEC CPM verification from the DTSC that:

- The Unit 2 fuel oil tanks were certified clean prior to disposal
- The Unit 2 fuel oil tanks and have been removed from the ECGS Site

WASTE-2: The Applicant shall ensure that any contaminated soil identified in the Phase II ESA that will be disturbed as part of the Project is removed from the Project Site and disposed of at appropriate disposal facilities before the start of Project Site grading.

Verification: At least 15 days before the start of Project Site grading (or as agreed upon with the CEC CPM), the Applicant shall provide to the CEC CPM verification from the DTSC that the Project Site is free of soil contaminants to be disturbed as established from the Phases II Survey Results.

WASTE-3: The Applicant shall ensure that a plan is in place to manage the abandonment of the existing ECGS Unit 3 boiler.

Verification: At least 30 days prior to the start of construction (or as agreed upon with the CEC CPM), the Applicant will provide to the CEC CPM a plan for the abandonment of the existing ECGS Unit 3 boiler. The plan will address the following:

- An identification of any known hazardous materials which exist on the Unit 3 boiler
- Procedure to maintain or remove any hazardous material from the Unit 3 boiler

HAZ-1 The Applicant will update the existing Business Plan and submit to the local CUPA.

Verification: At least 60 days prior to first receiving any hazardous material on the Project Site, the Applicant shall provide a copy of a final Business Plan to the CPM. At least 60 days prior to first delivery of aqueous ammonia to the Project Site, the Applicant shall provide the final EPA-approved RMP, to the CUPA, and the CPM.

As described in Section 6.8, Public Health and Safety, an analysis conducted to evaluate the potential consequences of two hypothetical anhydrous ammonia spill scenarios concluded that impacts will be below a level of significance even in the highly unlikely event of a worst-case release with the above mitigation measures in place.

6.14.4.4 Impacts of On-site Chemical Usage Management

The principal regulated hazardous substance that will be present in a quantity exceeding state or federal threshold planning quantities is anhydrous ammonia, which currently existing at the ECGS Site. Anhydrous ammonia is a severe corrosive that can cause irritation to the respiratory tract, burns to the skin, eye damage, or with exposure to higher concentrations, pulmonary edema and death. The anhydrous ammonia is currently used with the SCR units for control of NO_x emissions from Unit 2 and Unit 4. The existing tank and associated system will be used for the Unit 3 Repower Project.

The existing anhydrous ammonia storage tank is protected by a water fog system in the case of release, tank over-pressurization, or fire event. The water fog system encompasses a local alarm system, ambient ammonia monitors, piping, and fog nozzles. The new distribution pipe associating with the Unit 3 Repower Project will be made of materials and contain safety features that will reduce the potential for ammonia releases on the ECGS Site. Because of safety shutoff systems associated with delivery of anhydrous ammonia from the tank to the SCR, potential ammonia release quantities in the event of an upset condition would be small compared to losses associated with a failure of the storage tank or an accidental release during truck unloading.

The Unit 3 Repower Project will use approximately 25 gallons per hour of anhydrous ammonia at maximum load. It is anticipated that six additional ammonia deliveries will occur per year to serve the Project in trucks with average cargo capacities of 7,000 gallons.

The existing anhydrous ammonia unloading station is an engineered tank-truck unloading area, paved with reinforced, sealed concrete. The ammonia tank's containment structure is designed to contain 12,000 gallons of ammonia, 5,000 gallons of water projected by the water fogging system, and 2 inches of storm water, with 4 inches of freeboard remaining.

An off-site consequence analysis to examine the potential health effects of worst-case and alternate anhydrous ammonia releases is presented in Section 6.8, Public Health and Safety.

6.14.4.5 Impacts of On-site Waste Management

Methods that will be used to handle waste generated by the Project are summarized in Table 6.14-2, Anticipated Non-Hazardous Waste Management Methods, and Table 6.14-4, Anticipated Hazardous Waste Management Methods. In addition to those wastes generated during operation of the Project, construction wastes that may be generated temporarily could also include small quantities of adhesives, solvents, paints, and other solid construction debris. The construction contractors will save unused chemicals for reuse. Any chemical waste products generated by the contractors will be transported off-site by a licensed hazardous waste transporter to an approved disposal facility. Therefore, the impacts from waste management at the Project Site are expected to be minimal.

6.14.5 Sensitive Receptors

Sensitive receptors are usually thought of as vulnerable populations or ecosystems that could be impacted by the release of toxic materials or hazardous wastes. Such populations typically include daycare facilities, residential facilities such as schools, parks, and other locations typically occupied by children. Hospitals and nursing homes are also considered sensitive receptors. Sensitive ecosystems may include wetlands, rivers, ponds, and natural landscapes that serve as feeding and brooding sites for animal populations. Sensitive receptors in proximity to the site include convalescent homes, parks, schools, a hospital, preschools/daycares, and residences. See Section 6.8, Public Health and Safety, for all potentially sensitive locations within 3 miles of the Project.

Given the infrequent deliveries of hazardous materials and trips for removal of wastes to off-site locations, the small quantities associated with these deliveries, and the routes that would be used by commercial haulers, the risk to this area is considered minimal. A detailed discussion of health and safety considerations for the Project, including an evaluation of potential impacts of a worst-case release of aqueous ammonia, is provided in Section 6.8, Public Health and Safety.

6.14.6 Cumulative Impacts

The Project will not result in significant cumulative impacts that could adversely affect public health and safety or the environment. The primary consideration regarding the potential for cumulative effects would be the possibility that any one chemical release from the site would create an additive risk to humans or the environment. This is highly unlikely, considering the nature of the land uses and low level of industrialization in the El Centro area. An even less

likely scenario would be that two or more hazardous substances would be released at the same time from the Project Site, and therefore, have the potential to combine, thereby posing a greater threat to off-site receptors. No such combinations of chemicals will be present on the Project Site.

The hazardous material with the greatest potential for off-site migration would be the anhydrous ammonia. A health risk analysis of the potential exposure to anhydrous ammonia from an accidental release is included in Section 6.8, Public Health and Safety. Release of anhydrous ammonia would be mitigated using a water fogging system emplaced around the ammonia storage tank. The water fog can absorb the ammonia release. At high concentrations (greater than 2,500 ppm), ammonia gas causes severe health impacts, including death. However, the odor threshold is only about 5 ppm and irritation of the upper airways occurs at concentrations between 30 and 50 ppm. Therefore, any releases will be readily detectable at concentrations well below severe hazard levels. Safety precautions designed to quickly mitigate potential releases and safeguard worker health will include equipping workers with appropriate PPE, conducting appropriate hazardous materials and emergency response training, appropriate storage and signage practices, and worker right-to-know/chemical awareness training.

6.14.7 Laws, Ordinances, Regulations, and Standards

The use and storage of hazardous materials and the generation of hazardous wastes are regulated by federal, state, and local LORS. Table 6.14-6, Applicable LORS**,** provides a summary of the LORS that are applicable to the Project.

TABLE 6.14-6
APPLICABLE LORS

	Applicability
Federal	
CAA Chemical Accident Prevention Provisions 40 CFR Part 68	Requires an RMP if listed hazardous materials are stored or handled in amounts above the designated threshold quantities (TQs).
Comprehensive Environmental Response Compensation and Liability Act (CERLA)/ Superfund Amendment and Reauthorization Act 9 (SARA) – Emergency Planning and Community Right-to-Know Act (EPCRA) Section 302 40 CFR Part 300/355	Requires certain planning activities when extremely hazardous substances (EHS) are present in amounts exceeding their threshold planning quantities (TPQs). Facilities must comply within 60 days of becoming subject to these regulations. (Note: These requirements are met by complying with the state of California's Hazardous Materials Release Response Plans and Inventory Act.)
CERCLA/SARA EPCRA Section 304 40 CFR Part 300/355	Requires notification when there is a release of a hazardous material in excess of its reportable quantity (RQ).
CERCLA/SARA EPCRA Section 311/312 40 CFR Part 300/355	Requires a Material Safety Data Sheet (MSDS) for every hazardous material to be kept on-site and submitted to the State Emergency Response Commission (SERC), Local Emergency Planning Committee (LEPC), and the local fire department. Requires annual reporting of the facility's hazardous materials inventory. (Note: These requirement are met by utilizing forms also required under the state of California's Hazardous Materials Release Response Plans and Inventory Act.)

TABLE 6.14-6
APPLICABLE LORS

	Applicability
CERCLA/SARA EPCRA Section 313 Toxic Release Inventory (TRI) 40 CFR Part 300/355	Requires annual reporting of releases of hazardous materials.
RCRA, 42 USC Section 6901 *et seq* 40 CFR 260-272	Requires facility to obtain permits to store, transport, and dispose of hazardous waste. California is an authorized permitting state.
Hazardous Materials Transportation Act 49 CFR Parts 172, 173, and 179	Sets placarding and packaging standards. California is an authorized state for regulating these standards.
OSHA 29 CFR Part 1910	Requires training and communication for handlers of hazardous wastes and materials.
State	
Hazardous Materials Release Response Plans and Inventory Act (Health and Safety Code, Chapter 6.95 Section 25500 – 25545)	Requires preparation of a HMBP, including a hazardous materials inventory, if hazardous materials are handled or stored in excess of 55 gallons, 500 s, or 200 cubic feet of gas at standard temperature and pressure or equal to or greater than the federal TPQ for federally listed extremely hazardous substances. Inventory report forms also meet federal EPCRA Section 312 requirements.
CalARP Program (Health and Safety Code, Chapter 6.95, Section 25531-25543.4)	Requires registration with local CUPA or lead agency and preparation of a RMP if acutely hazardous materials are handled or stored in excess of TPQs. This program is the adopted federal CAA Chemical Accident Prevention program (40 CFR part 68) with some amendments specific to the state.
Aboveground Petroleum Storage Act (Health and Safety Code, Chapter 6.67, Sections 25270 – 25270.13)	Requires entities that store petroleum in aboveground storage tanks (AST) in excess of certain quantities to prepare an SPCC plan.
California Hazardous Waste Control Law (Health and Safety Code, Chapter 6.5, Section 25100-25249; regulations found at 22 CCR Section 66261.126 et. seq.)	Requires facilities characterize, properly store, placard, manifest, transport, and dispose of hazardous waste.
California Hazardous Waste Control Law, Management of Used Oil (Health and Safety Code, Chapter 6.5, Section 25250-25250.28)	Regulates the disposition of used oil transported off-site for recycling. Does not apply to oil removed from electrical equipment.
Porter-Cologne Water Quality Control Act (California Water Code Section 13000 et. seq.; waste discharge regulations found in CWC Sections 13260 – 13274)	Control discharge of wastewater to the surface and groundwater of California. Applies only if the facility discharges wastewater to surface or groundwater.
Local	
California Building Code	Regulates storing and handling of hazardous materials

Notes:
LORS = Laws, Ordinances, Regulations, and Standards
CAA = Clean Air Act
CFR = Code of Federal Regulation
RMP = Risk Management Plan

6.14.8 Involved Agencies and Agency Contacts

Table 6.14-7, Hazardous Material Agency Contacts for the Project, lists the local agencies involved in hazardous materials management at the ECGS and a contact person at each agency.

TABLE 6.14-7
HAZARDOUS MATERIAL AGENCY CONTACTS FOR THE PROJECT

Agency	Name/Title	Address	Phone Number
Department of Toxic Substances Control, Imperial County Environmental Health Department	Alan Shu Roger Vintz CUPA Managers	939 West Main Street, Suite B7 El Centro, CA 92243	(760) 484-5417
Imperial County Planning/ Building Department	Jurg Heuburger, Planning Director	939 Main Street El Centro, CA 92243	(760) 482-4236
City of El Centro Fire Department, Hazardous Materials (HAZMAT) Section	Chris Petree, Fire Chief	775 State Street El Centro, CA 92243	(760) 337-4530

6.14.9 References

Agency for Toxic Substances and Disease Registry (ATSDR). 2004. Medical management guidelines for ammonia. http://www.atsdr.cdc.gov

California Office of Emergency Services. 1998. *California Code of Regulations, Title 19. Public Safety, California Accidental Release Prevention Program.* November.

California Department of Toxic Substance Control. 2004. Laws, regulations and policies Web site: http://www.dtsc.ca.gov/LawsRegulationsPolicies/hs_code.html

United States Environmental Protection Agency (USEPA). 1996. *Federal Register, Part III Accidental Release Prevention Requirements: Risk Management Programs Under the Clean Air Act Section 112(r)(7).* June 20. 40 CFR Part 68, FRL-5516-5.

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